Desktop Virtualization

NSRC

What do we mean?

- Running VMs on your laptop or desktop machine with keyboard and screen

- Especially useful for:

  - Trying out other operating systems
  - Development and test environments (sandboxes)
  - Running foreign applications

Things we like

- Simple to use GUI

- Features
  - Represent the guest's console as a window
  - Easy use of keyboard and mouse
  - Copy-paste between the guest and the host
  - Disk image management and snapshots

- We are not worried about datacentre-grade scalability

We are going to use VirtualBox

- Pros:
  - Free* and Open Source (GPL)*
  - Available for Windows, Mac, Linux, FreeBSD
  - Good documentation
  - Easy to use and powerful
  - Can run 64-bit guests on 32-bit host (with VT-x)
- Cons:
  - It's owned by Oracle

* Except the optional Extension Pack, which is closed source, free for personal use only

Things you need to know (1)

- Click in the guest window to capture the keyboard and mouse

- ***To release the keyboard and mouse, press the "host key" which is usually Right Ctrl***

- You can get better keyboard/mouse integration by installing the "VBox Guest Additions"

    – Then you can simply move your mouse over the window and move it away again

    – Also lets you copy-paste and share files with the guest

Things you need to know (2)

- Shutting down a VM is most safely done by requesting shutdown from *within* the VM

- Or you can send an "ACPI shutdown" signal from VirtualBox

    – Linux guests need "acpid" installed

- Try to avoid an "immediate power off"

    – Just like pulling the power out on the wall

    – Could result in lost data / filesystem corruption

Things you need to know (3)

- Default disk image format is "VDI" and you can choose either fixed or growable

- The default networking mode is "NAT" and you don't need to configure anything

  – Client will pick up IP address (10.0.2.15) via DHCP and can make outbound connections

- The full manual is included (Help > Contents) or you can download it separately

Practical exercise

- Install VirtualBox on your laptop

  – Check with instructors if you have <1GB RAM or <5GB free hard drive space

- Create a VM and install Ubuntu within it

- If you have time: install the VirtualBox Guest Additions and more VMs